

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings of claims in the Application.

1-27. (Canceled)

28. (Previously Presented) The article of manufacture of claim 54, wherein the machine-accessible medium further includes data that cause the machine to perform operations comprising determining a relationship between the diameter, the chirality, and the resonant frequency of the target nanotube.

29. (Previously Presented) The article of manufacture of claim 52, wherein the machine-accessible medium further includes data that cause the machine to perform operations comprising collecting the target nanotube.

30. (Previously Presented) The article of manufacture of claim 52, wherein the machine-accessible medium further includes data that cause the machine to perform operations comprising un-bundling the mixture of nanotubes.

31. (Currently Amended) A method, comprising:
directing a laser beam at a mixture of nanotubes including at least one target nanotube, the laser beam having a frequency less than a resonant frequency of the target nanotube, the resonant frequency determined by a diameter and chirality of the target nanotube;
trapping the target nanotube; and
moving the target nanotube from a first fluid layer to a second fluid layer.

32. (Previously Presented) The method of claim 31, further comprising identifying the resonant frequency of the target nanotube.
33. (Previously Presented) The method of claim 32, further comprising determining the diameter and chirality of the target nanotube.
34. (Previously Presented) The method of claim 33, further comprising determining a relationship between the diameter, the chirality, and the resonant frequency of the target nanotube.
35. (Previously Presented) The method of claim 31, further comprising collecting the target nanotube.
36. (Previously Presented) The method of claim 31, further comprising un-bundling the mixture of nanotubes.
37. (Previously Presented) The method of claim 31, wherein the target nanotube contains a metallic single-walled carbon nanotube.
38. (Previously Presented) The method of claim 31, wherein the target nanotube contains a semiconductor single-walled carbon nanotube.
39. (Previously Presented) The method of claim 31, wherein, the mixture of nanotubes includes another target nanotube, the method further comprising:
directing a laser beam having another laser frequency at the mixture of nanotubes, the another laser frequency being less than a next resonant frequency of the next target nanotube, the other resonant frequency determined by a diameter and chirality of the other target nanotube;

trapping the other target nanotube;
and moving the other target nanotube.

40. (Previously Presented) The method of claim 31, further comprising:
directing another laser beam having a laser frequency less than the resonant
frequency of the target nanotube at the mixture of nanotubes; and
trapping the target nanotube;
and moving the target nanotube.

41. (Previously Presented) The method of claim 31, wherein the target nanotube is
moved into a fluid layer containing water.

42. (Currently Amended) An apparatus, comprising:
at least a first fluid layer and a second fluid layer;
a laser to emit a laser beam having a frequency lower than a resonant frequency
corresponding to a target nanotube, the resonant frequency determined by a diameter
and chirality of the target nanotube; and
the laser beam configured to induce at least one optical dipole trap in the target
nanotube and to move the target nanotube from at the first fluid layer to at the second fluid
layer.

43. (Previously Presented) The apparatus of claim 42, wherein the first and second
fluid layers comprise water.

44. (Previously Presented) The apparatus of claim 42, wherein the target nanotube
contains a metallic single-walled carbon nanotube.

45. (Previously Presented) The apparatus of claim 42, wherein the target nanotube
contains a semiconductor single-walled carbon nanotube.

46. (Previously Presented) The apparatus of claim 42, further comprising a third fluid layer, the third fluid layer being in proximity with the second fluid layer.

47. (Previously Presented) The apparatus of claim 46, wherein the laser beam is coupled to emit a next frequency lower than a resonant frequency corresponding to a next target nanotube in the mixture of nanotubes, the next resonant frequency determined by a diameter and chirality of the next target nanotube, the laser beam being configured to trap the next target nanotube and to move the next target nanotube into the third fluid layer.

48. (Previously Presented) The apparatus of claim 42, further comprising a first collector to collect the target nanotube.

49. (Currently Amended) A system, comprising:

a piezoelectric tube coupled to a collected target nanotube,

wherein the collected target nanotube was collected by an apparatus configured to direct a laser beam at a mixture of nanotubes including at least one target nanotube, the laser beam having a laser frequency less than a resonant frequency of the target nanotube, the resonant frequency determined by a diameter and chirality of the target nanotube, the laser beam configured to move the target nanotube, ~~the apparatus configured to collect the target nanotube; and~~

~~—— a piezoelectric tube coupled to the collected target nanotube.~~

50. (Previously Presented) The system of claim 49, further comprising a current amplifier coupled to the collected target nanotube.

51. (Previously Presented) The system of claim 50, further comprising a display coupled to the current amplifier.

52. (Currently Amended) An article of manufacture, comprising:
a machine-accessible medium including data that, when accessed by a machine, cause the machine to perform the operations comprising:
directing a laser beam at a mixture of nanotubes including at least one target nanotube in a first fluid layer, the laser beam having a frequency less than a resonant frequency of the target nanotube, the resonant frequency determined by a diameter and chirality of the target nanotube;
trapping at least one target nanotube; and
moving the target nanotube from the first fluid layer to a second fluid layer.

53. (Previously Presented) The article of manufacture of claim 52, wherein the machine-accessible medium further includes data that cause the machine to perform operations comprising identifying the resonant frequency of the target nanotube.

54. (Previously Presented) The article of manufacture of claim 53, wherein the machine-accessible medium further includes data that cause the machine to perform operations comprising identifying the diameter and the chirality corresponding to the resonant frequency of the target nanotube.